KIDS AND CARS
LOVE THEM, PROTECT THEM
www.kidsandcars.org
2913 West 113th Street Leawood KS 66211 (913) 327-0013 Fax (913) 327-0014

Testimony of

Janette E. Fennell
Founder and President
KidsAndCars.org

on

the "Auto Safety: Existing Mandates and Emerging Issues" hearing

before the

Subcommittee on Commerce, Trade and Consumer Protection
of the
House Committee on Energy and Commerce

May 18, 2009

Mr. Chairman, members of the Subcommittee, Good Afternoon, my name is Janette Fennell and I am the founder and president of the national nonprofit organization KidsAndCars.org; an agency dedicated to improving the safety of children in and around motor vehicles. I wish to thank you and the members of the Subcommittee on Commerce, Trade and Consumer Protection for inviting me to appear before you today to testify on the important issue of child safety. I come before you today because there are a number of legislative measures that Congress can enact that will save the lives of thousands of people each year, but in particular to express our views on the issue of transportation safety as it relates to children.

I would like to share a bit of my background with you so you can better understand why I personally have dedicated my life to the issue of vehicle safety.

My family and I were victims of a trunk entrapment incident in 1995. Without getting into too much detail, I will quickly share our story.

We were pulling into our garage a little before midnight when two masked men slipped in under our garage door before it had a chance to close. My husband and I were ordered at gunpoint to get into the trunk of our car. Our nine-month-old son, Alexander, was asleep in his car seat when the gunmen noticed him. The gunmen drove off with us in the trunk as we wondered what the abductors had done with our son. We were taken in the trunk of our car to a remote area where we were robbed, assaulted and left to die. The abductors then fled and left us locked inside the trunk of our car. Desperate to find out what had happened to our son, we tore at the insulation at the front of the trunk. We miraculously were able to locate the cable for the trunk release, and popped open the trunk lid. Happy to have escaped the confines of the trunk, we ran to the back seat of our car only to find an empty back seat...no baby and no car seat.

Although we did not know it, Alexander was thrown outside of our home in his car seat, alone in the middle of the night. After placing a call to 911, a police officer was sent to our home and found our son unharmed, still in his car seat. Now you may think this is a story about how a car seat can save the life of a child—even when the seat is not in a car; because literally that is what saved his life that night. But, instead I share this story with you because it shows how very small engineering changes can make a tremendous difference in the lives of people in this country. After this incident we dedicated our lives to make sure this type of trauma would not happen to another family.

After collecting a tremendous amount of data and bringing this issue to the national agenda we were successful in getting a Federal Regulation written that requires all motor vehicles beginning with model year 2002 to have a phosphorescent trunk release handle inside the trunk of a vehicle. Since the implementation of this regulation, there has ***not*** been ONE fatal trunk entrapment incident in a vehicle that has this escape mechanism. So please, never doubt the importance and significance of the interventions implemented by this committee; I can tell you this small change has saved countless lives.

You may just see me here today before the committee but know that KidsAndCars.org is a collaborative entity and sought input from leaders in child passenger safety for today's testimony. Included in my submission are thoughts and comments from the American Academy of Pediatrics, Children's Hospital of Philadelphia (CHOP), SafeRide News, the Traffic Safety Center at the School of Public Health, University of California, Berkeley, Department of Emergency Medicine and Center for Trauma and Injury Prevention Research at the University of California, Irvine, Safety Belt Safe USA, Traffic Safety Projects, Consumers Union, Advocates for Highway and Auto Safety, Public Citizen and the National Coalition for School Bus Safety.

The fundamental idea I would like to communicate today is that children (mechanically, psychologically, and socially) are not small adults. Therefore, their special, unique and specific needs deserve to be examined and dealt with in a manner different than the adult population.

Vehicles are designed for an average size adult male. Children's size and relative proportions vary greatly throughout the pediatric age range and are very different from the average size of an adult male. Unfortunately, children are an after-thought during the vehicle design process.

Motor vehicle injuries are the leading cause of death and acquired disability for children after the age of one in the U.S. But many of these deaths can be prevented. Placing children in age and size-appropriate car seats and booster seats reduces serious and fatal injuries by more than half.

How big is the problem?

- In the United States during 2005, 1,335 children ages 14 years and younger died as occupants in motor vehicle crashes, and approximately 184,000 were injured. That's an average of 4 deaths and 504 injuries each day.
- Among children under age 5, in 2006, an estimated 425 lives were saved by car and booster seat use.

What are the risk factors?

- Restraint use among young children often depends upon the driver's seat belt use. Almost 40% of children riding with unbelted drivers were themselves unrestrained.
- Child restraint systems are often used incorrectly. One study found that 72% of nearly 3,500 observed car and booster seats were misused in a way that could be expected to increase a child's risk of injury during a crash.

How can injuries to children in motor vehicles be prevented?

- Child safety seats reduce the risk of death in passenger cars by 71% for infants, and by 54% for toddlers ages 1 to 4 years.
- There is strong evidence that child safety seat laws, safety seat distribution and education programs, community-wide education and enforcement campaigns, and incentive-plus-education programs are effective in increasing child safety seat use.
- According to researchers at the Children's Hospital of Philadelphia, for children 4 to 7 years, booster seats reduce injury risk by 59% compared to seat belts alone.

- All children ages 12 years and younger should ride in the back seat. Adults should avoid placing children in front of airbags. Putting children in the back seat eliminates the injury risk of deployed front passenger-side airbags and places children in the safest part of the vehicle in the event of a crash.
- Overall, for children less than 16 years, riding in the back seat is associated with a 40% reduction in the risk of serious injury.

There are many transportation related issues that deal with children. Due to the limited amount of time, I will highlight the areas that we view can significantly reduce the number of injuries and death to your youngest constituents.

They are:
Progress to date - The Cameron Gulbransen Kids Transportation Safety Act
    Auto-reverse power windows
    Rear Visibility
Rear seatbelt reminders systems
    Reminder Systems To Prevent Unattended Children
Child Passenger safety-LATCH improvements
    Improving the ease of installing child restraints (CRs) in the center of the back seat
    Weight limits for children in CRs installed with the universal anchorage system LATCH
    Improving tether use and tether anchor access
    Reconsider the mandate to states to include the 4'9" provision in state laws
    Assessing methods to reduce entanglement of children in safety belts
    Encourage innovative child restraint designs that could increase protection for children
    Identification of safety seats
    Improve access to safety seats
School Bus Safety
    Inside the Bus
    Outside the Bus
Data Collection
Funding for the National Highway Traffic Safety Administration (NHTSA)

Progress to date - The Cameron Gulbransen Kids Transportation Safety Act

The Cameron Gulbransen Kids Transportation Safety Act was signed by the President on February 28, 2008 and directs the Secretary of Transportation to issue safety standards to decrease the incidence of child injury and death. The law:

- Establishes reasonable rulemaking deadlines regarding child safety, applicable to all passenger motor vehicles, in three ways:
    - Ensures that power windows and panels automatically reverse direction when they detect an obstruction to prevent children from being trapped, injured or killed.
    - Requires a rearward visibility performance standard that will provide drivers with a means of detecting the presence of a person behind the vehicle in order to prevent backing incidents involving death and injury, especially to small children and disabled people.

- Requires the vehicle service brake to be depressed whenever the vehicle is taken out of park in order to prevent incidents resulting from children disengaging the gear shift and causing vehicles to roll away.

- Establishes a child safety information program, administered by the Secretary of Transportation. This will involve collecting non-traffic incident data, informing parents about these hazards to children and ways to mitigate them, as well as making this information available to the public through the Internet and other means.

To date, NHTSA has done an excellent job meeting the deadlines prescribed in the act and published it's first report utilizing a virtual system about incidents that take place off our public roads and highways. Entitled, "Not-in-Traffic Surveillance 2007 – Highlights" this summary brings to light the different ways people are injured via the interaction with a vehicle; but only reports incidents that take place exclusively on private property. The Not-in-Traffic Surveillance (NiTS) system produced an overall annual estimate of 1,747 fatalities and 841,000 injuries in nontraffic crashes and noncrash incidents. Backovers accounted for 221 fatalities and 14,000 injuries. There were another 393 fatalities and 20,000 injury nonoccupant noncrash events (e.g., frontovers, vehicles set into motion, etc.) reported. More research is needed to better understand the causal factors involved (beyond knowing that SUVs increase risk) and evaluate potential countermeasures (e.g., rearview camera systems and sensors, educational campaigns, etc.)

Power Windows

No later than August 2009, the act requires NHTSA to initiate rulemaking requiring power windows and panels to automatically reverse direction when detecting an object or person. Electric power windows are a decades-old convenience feature that most drivers take for granted. Millions of parents use them every day, but few know how dangerous these devices can be to children when not equipped with the proper safeguards.

Since their introduction into the U.S. market (without any safety controls) in the late 1950s and early 1960s, power windows have repeatedly been the instruments of death and/or serious physical injury to children and others. According to the NiTS system, there were at least 5 fatalities and 2000 people injured severely enough to require emergency room treatment in 2007.

The accidental activation of power windows has resulted in the deaths of dozens of children and thousands more have been injured over the course of their history. In almost every case, the child died from strangulation after becoming lodged between the window and the frame.

If a child (or someone else in the vehicle) activates a window unintentionally, the consequences can be instantaneous and often tragic. In as little as two seconds, an inadvertently activated power window can clamp down on a child's head, neck or other body part, causing severe injury or death.

How much pressure can a power window exert? Enough to pull the body of a small child off the seat of a vehicle. The mechanics of an electric power window are very simple. By applying a small two pound force on a power window switch, the window motor is activated to exert an upward raising force of between 50-80 pounds. Since only eight to 12 pounds of force is

needed to raise the average car window glass, these excessively overpowered windows have enough power to lift and strangle a child between the glass and the upper window frame.

For decades the American automotive industry has been aware of the dangers of power windows, but has arbitrarily chosen not to act. The history of their awareness of the problem goes back to the earliest days of power window usage.

One early highly publicized instance occurred literally in the American auto industry's own back yard. In 1962, Christopher Cavanaugh, the 3-year-old son of Detroit's Mayor was nearly strangled by the tailgate power window on a Dodge Station Wagon.

Recognizing the terrible toll being taken by power windows, Ralph Nader sent a letter in May of 1968 to Dr. William Haddon, Jr. Administrator of the National Highway Safety Board urging the NHSB to order a recall and require the immediate modification of power windows -- or at least to issue a public warning of the dangers.

Unfortunately, Nader's suggestions were rejected.

However, later that same year, the U.S. Government, due to numerous reported deaths and injuries, issued advisory warnings to the public regarding the dangers of power windows to children who were left alone in automobiles. This advisory, which was distributed to all major automobile manufacturers, as well as the public, even recommended that the dangers could be lessened by wiring power windows so they would not operate without the ignition switch being on.

The following year, in response to the known dangers of power windows, Dr. Haddon, Jr. called for a Federal Motor Vehicle Safety Standard "which will reduce, if not eliminate, the toll of deaths and injuries resulting from accidents involving power-operated windows." (FMVSS) (8-23-69; 34FR13608).

Decades later, American consumers are still waiting for a safety standard that lives up to that initial mandate.

Just as the dangers posed by power windows to children have been known for years, so too have been workable solutions that could easily prevent these senseless tragedies. Patent information which addresses the safety of power windows has been available to Ford and other automakers for decades.

The first window-reversing patent (Patent 3,465,476) was issued in 1967, and in 1972 a French mechanism company was issued a reversing electrical switch patent (Patent 3,662,491). This patent clearly points out the hazards that are presented to a child's head and neck by a power window. During the period 1980 to 1987, at least nine additional patents were issued addressing power window safety and window reversing mechanisms.

Numerous technically feasible alternative designs were and are available that would have prevented these tragedies.

Automatic power window reversing mechanisms exist in several forms, including optical sensors, which detect an object in the window path; voltage load buildup sensors, which reverse at contact with an obstruction; or infrared sensors, which reverse the window without contact. Some Japanese vehicles made in the 1980's were equipped with windows that stop - but do not reverse - when they meet with resistance.

A representative of the European Automobile Manufacturers' Association has estimated that more than 90 percent of vehicles on the road in Europe are equipped with a power window auto-reverse feature, including vehicles sold by American manufacturers.

The cost for this added safety feature is about $6 to $8 dollars per window, according to a German-based company that is one of the prime suppliers of auto-reverse technology in Europe.

Oddly enough, many American manufacturers commonly include this feature on cars sold overseas, many times on the same models available in the United States. They have simply chosen not to offer what should be a basic safety feature to North American consumers.

Are European children more precious than American children? I think not.

These deaths and injuries are 100% preventable. After 4 decades of death and dismemberment, we need a final rule.

Rear Visibility

In March NHTSA published an Advanced Notice of Proposed Rule Making (ANPRM) to amend the rearview mirror standard. The agency also solicited comments on the state of current research and countermeasures that might assist it in amending Federal Motor Vehicle Safety Standard (FMVSS) 111 to eliminate blind zones. The agency sought answers to 52 questions in seven different areas, including the scope of the problem, technologies for improving rear visibility, effectiveness, driver behavior, options for measuring rear visibility and countermeasure performance. The sheer volume of questions is a good sign that the agency wants to take an in-depth look at all available information before crafting a standard.

KidsAndCars.org would like to re-emphasize that the rear visibility standard needs to apply to all passenger vehicles because every vehicle has a blind zone.

Rear Seatbelt Reminders Systems

The importance of seat belts in saving lives is indisputable. We should do everything possible to get people to buckle up. European vehicle manufacturers employ seat belt use reminder systems using chimes and other audible sounds, which become more insistent based on increasing vehicle speed or distance driven. In 2003 the National Academy of Sciences conducted a study of new seat belt reminder technologies for NHTSA, recommending, among other actions, that all new light-duty vehicles be equipped with an enhanced belt reminder system that includes an audible warning and a visual indicator for front seat occupants and that the current 4-8 second limitation on audible warnings be amended to remove the time limit. *See Buckling Up: Technologies to Increase Seat Belt Use*, Transportation Research Board Special Report No. 278 (http://trb.org/publications/sr/sr278.pdf)

In recent years the government and safety organizations have made a major effort to educate the public about securing children in child restraints in the rear seat of vehicles for their safety. At the same time, rear seat occupancy by older children using booster seats and teens who use adult seat belts has also increased but seat belt use rates lag well behind front seat belt use rates. Rear seat reminder systems can both remind the driver and rear seat occupants to buckle up and alert the driver when a passenger unbuckles their seat belt while the vehicle is moving.

Although safety belt systems are installed at all designated seating positions in passenger vehicles, systems to remind passengers to buckle their seat belts are limited to the front seats of passenger vehicles only. Seat belt reminder systems should be available for all designated seating positions to remind the driver and each passenger to buckle their seat belt.

On August 28, 2007, safety groups filed a petition with NHTSA requesting that seat belt reminder systems be required in the rear seats of cars and in the second and third row of seats in multipurpose passenger vehicles including minivans and sport utility vehicles. Though NHTSA is required to respond to petitions within 120 days (49 CFR Section 552.8) the agency has not yet responded to this petition after almost 2 years.

I submit the 2007 petition to my testimony as it cites multiple studies and provides every justification needed to move quickly on this proposal.
(http://www.regulations.gov/fdmspublic/component/main?main=DocketDetail&d=NHTSA-2007-29108)
Reasons Congress needs to direct NHTSA to require a rear safety belt reminder system include:

- requiring rear seat belt reminders would save hundreds of lives each year, a large percentage of which would be children;
- rear seat belt reminders are necessary to save lives because primary enforcement of seat belt laws does not typically cover rear seat occupants;
- multiple studies have proven that rear seat belt use would increase significantly if rear seat belt reminders were required;
- requiring rear seat belt reminders is consistent with NHTSA's statements, Rulemaking Agenda, and SAFETEA-LU requirements to increase safety belt use for all passengers because implementing rear safety belt reminder systems would be the easiest way to achieve further gains in safety belt use and lives saved;
- rear seat belt reminders are technologically feasible and
- rear seat belt reminders would be less costly per unit if required in all vehicles

Government, industry and safety groups all agree seatbelts save lives.

There are two 30-second Public Service Announcements from Britain that are excellent examples of why rear seatbelt reminders systems are crucial to every passenger in the vehicle. I strongly encourage you to view these.

http://www.youtube.com/watch?v=e6Qhmdk4VNs&feature=related

http://www.youtube.com/watch?v=4SEy_FCJlpk&feature=related

Reminder Systems To Prevent Unattended Children can easily be incorporated after seatbelt reminder systems have been added.

A riveting article, “Fatal Distraction,” was published by Pulitzer Prize winning author, Gene Weingarten, in the Washington Post Magazine on March 8, 2009. He did a phenomenal job bringing together the many complicated and misunderstood reasons how children can be inadvertently left alone in a hot car and why these unthinkable deaths continue to happen. Mr. Weingarten explained the ways our brain/memory function and how lack of sleep, stress and a change in routine can have devastating consequences. It conveys a powerful message and tells the heart-breaking stories of parents who have lost their young child so tragically. I submit this article for the record. This article has been blogged about in the New York Times, Wall Street Journal, etc. It has been characterized as a “must read” for this year. Examples of comments follow:

As a new parent, I've read as much of this stuff as I can find. This article drives home very well that this can happen to anybody, as in no amount of education or wealth makes a person immune from making this mistake.

But I agree with Wise Old Woman that "it can happen to anyone" and the fact that we're looking at cases of "mere" negligence has pushed some to minimize what happened here. There's a reason that these otherwise good parents struggle with guilt: they were catastrophically bad parents, albeit on one occasion. It wasn't criminal and the results weren't fair, but the were still awful and still preventable.

Preventing this is not out of a parents hands, and I hope this article and people push cars to be better going forward. But in the end, these would be machines, like our memories, and could fail. Nothing avoids the simple reality that each parent paying attention to what their doing is the best way to avoid such tragedies.

###

I think what this article stresses is the need for prevention. Simply saying these are cases of bad parenting is not enough. They were not bad parents. They were like most parents: they had multiple responsibilities, and they were human. They made mistakes, and these were incredibly unfortunate ones. More needs to be done to prevent this from happening again. Saying horrible things about the parents involved is not enough. In fact, it is completely counter-productive. Focus on solutions, not on making yourself feel like a better human being for never having made this particular mistake with your children.

###

Every Christian at least knows the story of Jesus teaching in the Temple at the age of twelve. The priests wondered at his precocious wisdom. Jesus was there alone because Joseph and Mary accidentally left him when they started for home. Each thought he was with the other, until they had an "I thought he was with you!" moment. If the Holy Family can make this mistake, then anyone can.

###

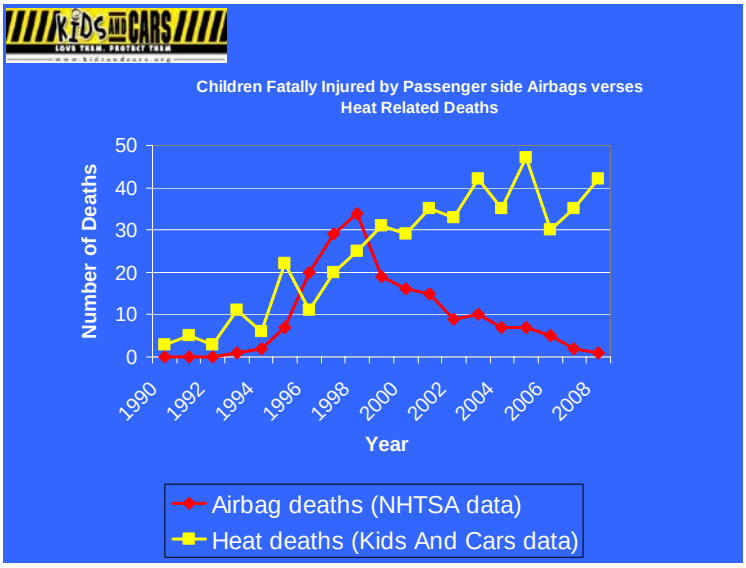
This is one of the saddest articles I have ever read. There but for the grace of God go ALL of us. If you have ever let your child play outside by himself, if you have ever turned your back on your child at the grocery store to grab something off the shelf, if you have ever let your 5-year-old go to the bathroom at McDonalds without accompanying him or her, you are no different from these people whose momentary lapses of memory caused the agonizing, tortuous deaths of their beloved infants.

###

During the 1990s, there were many reports of deaths caused by airbags. At least 180 children were killed by deploying passenger side airbags between 1990 and 2008; while during those same years over 500 children died in vehicles due to hyperthermia. Where's the outrage?

NHTSA's latest report on side passenger airbag deaths shows that in 2007, for the first time since 1992, there were no child or adult deaths caused by deploying airbags. Industry, government and safety groups worked together to prevent these unnecessary deaths by educating parents about the importance of transporting children only in the back seat. The campaign changed forever how Americans transport their children in motor vehicles.

But today, we are suffering from an unintended consequence of moving children to the backseat. The attached chart shows as we reduced the number of airbag deaths, the numbers of children who died because they were inadvertently left alone in the backseat of a vehicle began. This modern day a phenomenon was responsible for forty-two child deaths due to vehicular hyperthermia just last year. Many more children have died from being forgotten in a motor vehicle than have ever been killed by an airbag.



<u>Reminder Systems To Prevent Unattended Children can easily be incorporated after seatbelt reminder systems have been added.</u> All too often, adults inadvertently leave infants and young children in child restraint systems in the rear seats of passenger vehicles. Exposure of young children, particularly in hot weather, leads to hyperthermia that can result in death or severe injuries. Such inadvertent deaths can be avoided by equipping vehicles with sensors to detect the presence of the child and sound a warning at the time the driver locks the vehicle with a child inside.

These systems also prevent children from being inadvertently forgotten in vehicles by signaling the driver that a seat belt is still buckled once the vehicle is locked. Similar warning features currently remind drivers when they have left the key in the ignition, left the headlamps on and when a door is open while the vehicle is in motion.

Child Passenger Safety-LATCH Child Safety System Improvements

When children are moved from a rear-facing restraint to a forward-facing restraint, it is a demotion. It is not anything to celebrate. We would all, in fact, be safer rear-facing in the backseat. We need to promote keeping children rear-facing as long as possible. Did you know in Sweden children ride rear-facing until the age of 3 or 4?

When children are then moved from a forward-facing restraint to a belt-positioning booster, it is a bigger demotion. Notice the lack of 'restraint' in the name of the device they will be using in a vehicle. Belt-positioning boosters do not restrain children. They boost children so the adult seatbelt system fits them better.

When children are moved from a belt-positioning booster and allowed to ride in a vehicle using the adult seatbelt, this is the biggest demotion in safety terms. Remember for whom these adult seatbelts were originally designed - 170 lb male.

And then at the magic age of 15 (formerly 13), it is safe for children to ride in the front seat! With only two or three years to their high school graduation... we finally 'graduate' them into the adulthood of becoming a driver.

We all need to help parents stretch out the time kids spend at each stage -- keeping the kids there "as long as possible." Every step is a learning step for both parents and kids. Celebrities ride in the back--where it is 40% safer. 

As a prelude to any discussions about child restraints I'm always struck by one basic fact. There is not another consumer product that is *required by law* that takes 32 hours to learn how to install correctly and continues to have an 80 -90% mis-installation rate. Scholars and Moms alike are literally brought to their knees when trying to ensure the safety seat they chose for their child will provide with the best protection possible. Child restraint manuals contradict vehicle manuals and vice-versa. In 1999 NHTSA required that passenger vehicles and child restraints must be equipped with Lower Anchorages and Tethers for Children – the "LATCH" system – by 2002, in order to promote an easier system of child restraint in place of using vehicle seat belts to secure child restraints.

The Chicago Tribune published an article entitled "Car seat test reveal 'flaws' on March 1, 2009 calling into question once again the efficacy of child restraints and the testing procedures necessary to determine what is needed to keep children safe.

The Insurance Institute for Highway Safety (IIHS) responded to the article with the recommendation that consumers put the findings of that particular study in perspective with the overall history of real-life crashes that take place everyday on our roads and highways.

Safe Ride News (March/April 2009) published an article entitled, "Putting the Latest Car Seat Testing Revelations in Perspective" highlighting the following information:

- Today's CRs provide extremely good protection in the vast majority of crashes. There has not been an epidemic of babies killed or seriously injured from infant seats flying off their bases, as confirmed by the response from CHOP to the Tribune article: "'Our investigations of real-world crashes over the past ten years found infants in rear-facing car seats had an extremely low risk of injury in a crash. Of the crashes studied, very few infants in rear-facing seats were injured,' said Kristy Arbogast, Ph.D., director of engineering at the Center for Injury Research and Prevention. 'Of the few injuries we did see, most were minor and without long term consequences.'"
- CRs made today pass tests that are stringent, although limited to frontal crashes. The 30-mph speed of the FMVSS 213 sled test is more severe than at least 95% of actual crashes.
- Very, very few crashes are of the severity of the 35-mph tests of vehicles run by the New Car Assessment Program (NCAP) and reported in the Tribune article. At 35 mph, the forces are about one-third higher than in the 30-mph sled test. (To learn more about this, see "Physics 201" on page 3.)
- Testing every CR in every vehicle model every year would be an extraordinarily complicated, time-consuming, and expensive process that would greatly increase the cost of CRs. The benefit of having a single test standard is that it offers a reproducible test process that uses a representative crash pulse that is reasonably severe. No one should expect a CR to protect its occupant in all possible crash conditions.

In general, it appeared to be a 'blip' that generated interest for a short period of time followed by a period of questioning the results. It has caused the agency to look more closely at child restraint testing and an appropriate response came from Secretary LaHood. We hope this is helpful to the agency to continue working on the best methods to test car seats and improve the transparency consumers' demand in today's marketplace.

Although parents have long been advised that the center rear seating position is the safest for a child, no LATCH System was required in the center rear seat position, only the outboard seating positions. A 2005 agency report also established that many parents and other adults were confused about how the LATCH system works, could not identify or find the lower anchorages, or did not realize that there were no LATCH systems in the rear center seating position of cars. Although NHTSA identified technical improvements that could be made to make the use of LATCH system hardware easier, the agency has not yet proposed a solution. In conjunction with the agency's efforts to increase education regarding the use of the LATCH system, certain changes to the LATCH hardware are necessary and should be pursued.

Major issues concerning the LATCH System as per Deborah Davis Stewart
Editor/Publisher, Safe Ride News Publications

Improving the ease of installing child restraints in the center of the back seat

The center rear is known to be safer for children and many parents prefer to have their children positioned there.

There are various design features that hinder center position use, such as a hump in the cushion, narrow space for a third (center) occupant, and fold-down arm-rests. These are primarily designed for adult use/comfort, but since the back seat is predominantly the domain of children, it should be maximized for their safety.

FMVSS 225 does not address installation of child restraints (CRs) in the center seating position. Most CRs have flexible lower attachments so it is feasible to install them in the center rear using the anchors from the side position. The recommendations of original vehicle manufacturers (OEMs)* vary, as do the allowances of the CR manufacturers.

Making the center rear more accommodating to children, by having lower LATCH anchors installed there in all vehicles would not be a simple matter. Some OEMs that have done so have inadvertently created other compatibility issues. If separate anchors for the center position were mandated, the requirement would have to include a test for usability without causing other safety problems.

The other solution, requiring a built-in CR in the center rear, would greatly improved child safety in the back seat for children large/old enough to ride forward facing. Since forward-facing position has increased hazard for the occupant, compared to rear-facing infant position, there would be justification for encouraging the forward-facing occupants to ride in the center. Today, they are less likely than an infant to ride in the center position.

Weight limits for children in CRs installed with the universal anchorage system, LATCH

Since FMVSS 225 fails to determine a uniform maximum weight for children in CRs installed with LATCH, it is being interpreted differently by various OEMs.* Some limit lower and tether anchors to 40 lb, others specify 48 lb, and some stating no limit or following the CR manufacturers' recommendations on their products. Therefore, the system is not uniform. Users have to know the limits for the particular vehicles they own.

At the same time, CR manufacturers have developed more restraint systems with harnesses for children weighing over 48 pounds. There are now over 30 CR models. These are particularly useful for obese youngsters (a growing group) who are not mature enough to sit reliably in a booster seat. These also have different recommendations for the use of the tether and lower anchors.

Vehicle and CR manufacturers have organized a committee of the SAE to work on this issue. However, without support of NHTSA, this effort is slow and any definitive weight limits arrived at will only be voluntary. Until this problem is dealt with in regulation, it will hinder maximum effectiveness of FMVSS 225.

Improving tether use and tether anchor access

The top tether that is part of the LATCH system is widely recognized as providing substantial benefit to children riding in forward-facing CRs. However, caregivers often do not use the tether on their child's forward-facing CRs, and one common reason is because it is a hassle to attach. In the recent NHTSA-MVOSS report, only 60% of caregivers who know their CRs have tethers actually use it every time and 28 percent never fasten it.

In many vehicles, it is very hard to reach the tether anchor to hook the strap. For example, caregiver may have to climb into the back of a SUV or into the other side of the vehicle in order to attach the tether. Access to the tether anchor needs to be improved, so it will be convenient to use. This could be encouraged by a "usability" rating for vehicle LATCH systems that could be implemented by NHTSA.

*See attached Quick Reference List from The LATCH Manual, 2009, published by Safe Ride News Publications, Edmonds, WA

Please note that Ms. Stewart who is perhaps one of the foremost experts on LATCH has produced a full-sized book that has already been updated 3 times as an essential tool for the child passenger safety technicians (who have already received over 32 hours of training) to assist families through the puzzling process of securing a child restraint in their family vehicle. Have we made this easier?

Stephanie M. Tombrello, LCSW, CPST I0061, Executive Director, SafetyBeltSafe U.S.A. provides several suggestions to be considered priorities for Congressional action regarding car safety seats as well:

Reconsider the mandate to states to include 4'9" in state laws to qualify for incentive funding for improving state laws to protect older children in motor vehicles

We recommend providing incentive funding to states that pass laws to protect the safety of older children by requiring the correct use of a safety seat or booster until the child is big enough to wear a properly fitted safety belt. However, 4'9" is not an appropriate determinant.

To assess whether a child needs a booster seat or can ride safely wearing just a vehicle belt, one has to take into account the specific vehicle dimensions, including placement of safety belt attachments and angles and depth of vehicle seats. Recent research at the University of Michigan Transportation Safety Institute has reinforced the fact that in a two-variable problem like this one (i.e., the variability of the child's torso and leg lengths and the variability of the vehicle's belts and seat cushions), the evaluation must be conducted with the child in the actual vehicle.

Since 2001, SBS USA has offered such an approach, the 5-Step Test**, which can be presented in a 4-minute video or quickly understood from reading a simple handout. It does not require the parent or child to know either the child's height or the dimensions of the vehicle, and it can be done quickly in any vehicle in which the child rides. However, a state that uses those criteria in their law does not qualify for incentive funding from the U.S. government.

The 5-Step Test** works well, can be applied by non-experts—indeed, by the children themselves as they get older—and, in hundreds of "tests," has shown that age 8 is, by far, NOT the cut-off for booster use if one's goal is to protect children who do not fit properly in belts. A great many youngsters ages 10-12 need boosters to get the belts to fit. Using these criteria for the law would allow law enforcement officers in the field to assess belt fit easily when considering citing parents for non-compliance of "correct use" of belts.

It has been shown by many field assessments that it is common for parents NOT to know the height of their children. Even if the child's height is known, it is still necessary to have the child sit in the family vehicle to find out if the child needs a booster for proper belt fit.

We suggest that, at the very least, the 5-Step Test** system of evaluation be permitted as part of state laws to qualify for incentive funding. Even more important, this change would make it easier for parents to make good decisions about protecting their children. Frequently, we have found that parents still own a booster but do not use it because they do not know how to assess whether or not the child needs it. We know of cases in which children were injured while the booster sat unused in the family garage because the child had attained the age specified by state law.

Assessing methods to reduce entanglement of children in safety belts

Although shoulder-and-lap belts are considered the most protective safety feature in motor vehicles, there have been several instances of children who have strangled or nearly strangled because they placed a belt with a locking (switchable) retractor around their necks while traveling. It can be assumed that many more unreported cases have occurred. Most of the parents who experienced this frightening situation state that they were not even aware of the possibility that their children could be harmed by a vehicle belt. We recommend funding an exploratory study of a technological method for preventing such unintentional consequences. We also recommend that warnings to parents be provided not only in vehicle and safety seat owner's manuals but also in educational materials and media campaigns.

Suggestions for current, practical methods to reduce this risk should be solicited. The effectiveness of such a two-level approach in reducing deaths of children attributed to frontal passenger air bags has already been demonstrated. Finally, we want to make it clear that belt lockability is still an important feature for child restraint installation. NHTSA has issued a Notice of Proposed Rulemaking to remove the sunset clause that would rescind the lockability requirement for safety belts in 2012. A petition requesting this action was submitted by SafetyBeltSafe U.S.A. and Safe Ride News and supported by 177 CPS advocates.

Revising regulations to encourage innovative child restraint designs that could increase protection for children

We recommend that NHTSA consider permitting U.S. companies to manufacture and/or distribute child restraints designed for specified vehicles to improve compatibility, even if the design requires use of vehicle-specific equipment so the restraint could not be used in other vehicles. LATCH has not solved all incompatibility problems. Since vehicles have different configurations of seat cushions and belt anchors, it could be beneficial in some cases to have a child restraint designed to fit a particular car. However, FMVSS 213 requires that every child restraint be capable of being attached to the vehicle with two standard methods: a safety belt and the LATCH system (using one, not both). According to NHTSA, the restraint cannot be attached only by a special mechanism that not every vehicle has. It can have a supplementary, vehicle-specific attachment mechanism in addition to those universal means of attachment, but it must pass testing with only the standard attachment. A NHTSA representative states that the reason for requiring a standardized means of attachment is to reduce the likelihood of misuse. However, this should not be a concern if the restraint is available only through the vehicle manufacturer.

Identification of safety seats

It is not currently required that safety seat model names be visible to users. Because it is totally unrealistic to expect consumers to remember lengthy model numbers, which are used primarily by manufacturers for quality control and inventory control, it is very important that products have clearly discernible names permanently attached. It is as if we expected car buyers to remember the VINs on their vehicles so they could look up features and other characteristics of their vehicles or ask questions about them. Imagine having to remember a 17-digit number for your Ford Focus in order to identify it in a discussion with a service department!

Improve access to safety seats

Today, most families can easily obtain safety seats for a reasonable price. However, there are definitely pockets of the community who do not have the resources to purchase safety seats to protect their children. Economic analysis has shown that providing free or low-cost safety seats generates considerable savings in parents' lost work time and in medical, educational and long term disability costs for the injured children in addition to the considerable effects on families of a child with substantial physical, mental, and emotional challenges.

Since there is no consistent, national program that provides needy families with access to low-cost safety seats, local programs must rely on short-term, inconsistent funding through a variety of state and local resources. This makes it difficult for families to locate programs; moreover, it makes it very difficult for social service personnel to locate resources for their clients. Parents seeking specialized, expensive safety seats for youngsters with special needs face even greater challenges.

School Bus Safety

There is a great deal of published information that tells us sending our child to school on the big yellow school bus is beyond the safest way to transport them. KidsAndCars.org, the American Academy of Pediatrics and School Transportation News data collection efforts are questioning the accuracy of reported injuries and death regarding pupil transportation.

The American Academy of Pediatrics studied school bus related injuries actually treated in US emergency departments from 2001 to 2003. The physicians found an estimated 51,100 school bus–related injuries, two and a half times the accepted national estimates of 17,000.[1]

In a like manner, a year-long study of national and local newspaper headlines by industry journal *School Transportation News* found school bus riders killed outside the school bus were actually three times those reported in the highly respected 2006-2007 National School Bus Loading and Unloading Survey. [2]

The need for seatbelts on school buses has been debated for decades. After studying this issue for 10 years an announcement was made by the agency in October of 2008. The U.S. Department of Transportation released a final rule from NHTSA that requires three-point lap/shoulder restraint systems on all newly purchased ***small*** school buses, updating a previous

[1] McGeehan, J et al., "School Bus–Related Injuries Among Children and Teenagers in the United States, 2001-2003" PEDIATRICS Vol. 118 No. 5 November 2006, pp. 1978-1984.

[2] Wegbrit, D., "Trying Figures, Independent Research Highlights Challenges to the National Loading and Unloading Survey," *School Transportation news Magazine,* Jan. 2008, pg. 54.

regulation that the vehicles come equipped with lap belts. There is *no requirement* for larger school buses to install lap/shoulder belts.

It is strongly recommended that NHTSA require lap/shoulder belts on all newly manufactured school buses produced. All riders will be provided with protection during side impact and roll over accidents, discipline will be improved, incidents reduced and the life long habit of seat belt use reinforced.

Another aspect of school bus safety that gets little to no attention is that more children are killed outside of a school bus than have ever been killed inside a school bus. When assessing the overall safety a complete picture of the entire ride to and from school should be analyzed.

Attached is a copy of the response from the National Coalition for School Bus Safety to the NPRM (NHTSA 2007-0014). The document provides a good synopsis of the current state of affairs.

Data Collection

In order for government and industry to effectively and prudently address these issues, they need a quality real-world child-focused crash data system, as outlined in the National Child Occupant Special Study white paper and supported by the NHTSA, the automotive and insurance industries, as well as the pediatric health and traffic safety advocacy communities. (attached)

Funding for the National Highway Traffic Safety Administration (NHTSA)

One of the most critical weapons in the battle to reduce deaths and injuries is adequate financial resources to support programs and initiatives to advance safety. At present, nearly 95 percent of all transportation-related fatalities are the result of motor vehicle crashes but NHTSA's budget is less than one percent of the entire DOT budget.

Motor vehicle safety regulatory actions languish and NHTSA data collection is hampered because of insufficient resources to address these problems. Insufficient program funding and staff resources can contribute to the agency's missteps in identifying and acting upon the problems.

Since 1980, the agency has been playing a game of catch-up. Today, funding levels for motor vehicle safety and traffic safety programs are not much higher than 1980 funding levels in current dollars.

For over twenty years, NHTSA has been underfunded and its mission compromised because of a lack of adequate resources to combat the rising tide of increased highway deaths and injuries. Increase funding authorization for NHTSA's motor vehicle safety and consumer information programs.

Safety, medical, health, and law enforcement groups and DOT all agree that seat belt use is critical to safety in most crash modes. Last year, statistics show that the majority of fatally injured victims were not wearing their seat belts. It is incumbent on safety advocates, the Administration, and Congress, to ensure that everyone gets the message to "click it, or ticket." Please provide sufficient funding resources for the agency to fulfill it's mission.

**The "5-Step Test" is the best way to determine if a child can be demoted/graduated to wearing an adult safety belt.

The 5-Step Test.

1. Does the child sit all the way back against the back of the auto seat?
2. Do the child's knees bend comfortably at the edge of the auto seat?
3. Does the belt cross the shoulder between the neck and arm?
4. Is the lap belt as low as possible, touching the thighs?
5. Can the child stay seated like this for the whole trip?

If you answered "no" to any of these questions, your child needs a booster seat to make both the shoulder belt and the lap belt fit right for the best crash protection. Your child will be more comfortable, too and will be able to see out the back window better!

The back seat is the safest part of the car for all passengers. Recent research shows that children should ride in the back seat until they reach age 15. At my house we say, you can sit up front when you start driving.